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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,896	03/29/2004	Mikio Ikenishi	330-274	1100
23117	7590	11/02/2004	EXAMINER	
NIXON & VANDERHYE, PC 1100 N GLEBE ROAD 8TH FLOOR ARLINGTON, VA 22201-4714			FALASCO, LOUIS V	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/810,896

Applicant(s)

IKENISHI ET AL.

Examiner

Louis Falasco

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/156659.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

PAPERS RECEIVED

The Information Disclosure Statement is acknowledged.

The preliminary amendment received June 08, 2004 is acknowledged.

CLAIMS

The claims are 15 to 32.

ACTIONS

Statutory Basis

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Rejections

1. Claims 15- 29 and 32 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Yamamoto et al** (US 6577472)

Yamamoto et al teaches the magnetic information recording medium of these claims.

Yamamoto et al teaches magnetic information recording medium comprising a magnetic recording layer formed on a glass substrate where the glass containing SiO₂, of 40 to 75% and B₂O₃ and Al₂O₃ of 2 to 45% and 0 to 40% of R'₂O in which R' is from the group Li, Na and K - see **Yamamoto et al** Table 1 and Table 3. In **Yamamoto et al** the total content of SiO₂, B₂O₃, Al₂O₃ and R'₂O is at least 90 mol%. In - **Yamamoto et al** the glass substrate having no chemical strengthened layer as also called for in claim 32- see **Yamamoto et al** col. 2 lns 34-52.

As to claims 16, 17, 18, 22, 23, 25, 26, 27(22,23) the fragility index is merely applicants measure of fracture toughness. **Yamamoto et al** teaches the same formulation and, noting the Vickers hardness of Table 2, teaches samples treated to have the strengths required by the claims in **Yamamoto et al** - col. 7 lns 60-65 through the process the though a different measure is employed is different. It would have been at least obvious to have the **Yamamoto et al** Tables 1 & 3 samples at these strengths. When a reference teaches a product appearing substantially identical, based on evidence or reasoning the burden shifts to applicants to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess

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her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

Alternatively **Yamamoto et al** points out that the glass substrate is strong and could be strengthen as needed – see **Yamamoto et al** col. 2 ln 23 – 32. The specific extent would have been an obvious matter of routine optimization or design choice in order to have a recording medium that is sufficiently reliable - **Yamamoto et al** col. 1 lns 13-15.

As to claims 28 and 29 **Yamamoto et al** does not recite a Young's Modulus for the claimed glass in the recording medium. **Yamamoto et al** does have the same formulation as applicants and points out that the glass substrate is strong and could be strengthen as needed – see **Yamamoto et al** col. 2 ln 23 – 32. The specific extent would have been an obvious matter of routine optimization or design choice in order to have a recording medium that is sufficiently reliable - **Yamamoto et al** col. 1 lns 13-15.

2. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yamamoto et al** as applied to claims 15- 29 and 32 above, alone or further in view of **Fukushima et al** (US 2002/0055017).

Yamamoto et al as applied above does not recite a Young's Modulus for the claimed glass in the recording medium. However **Fukushima et al** points out the glass

substrates for magnetic recording medium optimally have the Young's Modulus of the instant claims (**Fukushima et al** see paragraph [0082]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the Young's Modulus as shown by **Fukushima et al** in recording media of **Yamamoto et al** for the purpose of sufficient workability and rigidity in the magnetic recording medium substrate. One skilled in the art would have been motivated to adopt **Fukushima et al** with the expectation of increasing rigidity and impact resistance of the recording media see **Fukushima et al** paragraph [0005].

3. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yamamoto et al** as applied to claims 15- 29 and 32 above, and further in view of **Saito et al** (US 6475599)

Yamamoto et al as applied above does not recite glass having a region where the viscosity of at least 1 Pa in a range equivalent to the liquidus temperature of the glass for the claimed glass in the recording medium. However **Saito et al** teaches adjusting the viscosity in a range equivalent to the liquidus temperature as a matter of optimizing the meltability and heightening the rate of polishing particularly when including compounds such as Na_2O as in the present claimed invention - see col. 9 lns 9 - 18 of **Saito et al**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the liquidus temperature as shown by **Saito et al** in

recording media of **Yamamoto et al** for the purpose of improving meltability and polishing magnetic recording medium substrate. One skilled in the art would have been motivated to adopt the admissions of prior art with the expectation of optimizing the meltability and heightening the rate of polishing of the recording media and removing inconsistencies in the substrate see **Saito et al** col. 2 lns 30-34.

4. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yamamoto et al** as applied to claims 15- 27 above, and further in view of **Zou et al** (US 6627565).

Yamamoto et al as applied to claims 15- 27 above does not recite a thermal expansion for the claimed glass in the recording medium. However **Zou et al** points out the convention for glass substrates for magnetic recording medium to have the thermal expansion in the range claimed (see col. 3 lns 1 and 11 of **Zou et al**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the thermal expansion in the range as shown by **Zou et al** in recording media of **Yamamoto et al** for the purpose of sufficient workability and in the magnetic recording medium substrate. One skilled in the art would have been motivated to adopt the admissions of prior art with the expectation of increasing the smoothness of the substrate for a recording media see **Zou et al** col. 1 lns 15-20.

CONCLUSION

The claims are to .

- No claim has been allowed.
- Information Disclosure Statement has been received.

INQUIRES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis Falasco whose telephone number is (571)272-1507.

The examiner can normally be reached on M-F 10:30 - 7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on (571)272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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10/04


STEVAN A. RESAN
PRIMARY EXAMINER